

Robert Wayne Kerbs

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EDUCATION

Nova Southeastern University
Graduate School of Computer and Information Sciences

Ph.D., computer science, 2001
MS, computer science, 1999

California State University, Long Beach

BS, electrical engineering, 1987

ACADEMIC APPOINTMENTS

California State Polytechnic University, Pomona
Computer Science Department

Professor, 2011-present
Associate Professor, 2007-2011
Assistant Professor, 2002-2007
Lecturer, 2000-2001

ADMINISTRATIVE LEADERSHIP POSITIONS AND ACCOMPLISHMENTS

Associate Dean for Operations and Students
College of Science
California State Polytechnic University, Pomona

2016-present

Responsibilities and Core Tasks

The Associate Dean for Operations and Student Affairs works with the Dean on operational aspects of college administration, taking particular responsibility for college operations, budget, staff management, student recruiting, advising, enrollment planning, and college infrastructure. A primary focus is striking a balance between the needs of faculty and staff for adequate space, time, and funding versus the resources available to the college.

Operations Management and Technology Support - Oversees day-to-day college operations and coordinates office workflow, infrastructure and technology support, infrastructure maintenance and remodeling, manages code compliance and emergency planning, and business continuity planning.

Student Recruiting, Advising and Graduation - Develops and coordinates college orientation, advising and career counseling activities; evaluates student petitions and appeals; works with chairs to address student grievances, issues and problems; plans and coordinates college commencement event.

Budget Management - Works with the Dean to develop and manage the state-side budget allocation model; monitors expenses; allocations, and part-time instructional employee hiring; works with departments to make adjustments as necessary.

Staff Hiring, Supervision, Evaluation and Development - Develops and maintains staff position descriptions, hires staff, conducts annual evaluations and manages staff development; allocates work and supervises office staff on a daily basis; liaises with human resources on staff issues.

Enrollment Planning and Management - Works with the Office of Admissions and the Office of Academic Programs to plan college enrollment based on strategic priorities; monitors progress toward enrollment targets, makes scheduling adjustments as needed.

Workload and Attendance Management - Manages payroll and oversees time and attendance reporting; manages Faculty Activity Department reporting; oversees lecturer hiring and allocation of assigned time. Is the HEERA (Higher Education Employer Employee Relations Act) Manager for the College of Science. Acts as capacity, I act as the administrative signature authority between the California State University (CSU) system and the labor organizations (22 unions) that represent the CSU employees.

Course and Room Scheduling - Manages department scheduling and room assignments; works with college schedulers to obtain rooms as needed.

Major Accomplishments as Interim Associate Dean

- **Workflow Optimization** - Improved efficiency of document workflow between Dean's Office and College of Science (CoS) Advising Center, and department offices significantly reducing student traffic in offices. Prior to this optimization, CoS documents (e.g., petitions, leaves, withdrawals, etc.) were accepted, scanned, and routed in the Dean's office and the Advising Center. The Advising Center now serves as the clearinghouse to perform all the aforementioned tasks in one location allowing for an improved system for students, faculty, and staff alike. Additionally, the Advising Center acts as the electronic repository for many student documents requiring signatures from the CoS Chairs and Dean.
- **Branding** - Worked with College of Science Communications Specialist to establish one page "Fact Sheet" that includes statistical figures for majors in the college, data about the facilities/degrees awarded/students serviced/etc., ethnic breakdown in the CoS, outreach programs, student support programs, and recent grant activity.

Chair, Computer Science Department
College of Science
California State Polytechnic University, Pomona

2011-2015

Responsibilities and Core Tasks

The Computer Science Department Chair reports to the Dean of the College of Science and serves as the executive officer of the department and is responsible for leading the department in its instructional, scholarly, community, and collaborative programs. The Chair manages the department's human, financial and space resources to achieve the department's goals within the context of university and college missions. Furthermore, the Chair serves to convey the department's vision and role within the institution to other departments and to faculty, staff, students, and administrators on campus.

Faculty, Administration, Staff and Student Interface - Worked with faculty, staff and administrators throughout the university to accomplish the department, college, and university goals and to ensure the collective good of the faculty, staff and students was attained.

Personnel Management - Made personnel decisions using appropriate judgement and sensitivity to balance individual and department needs, respected established practice and procedure, and improved the intellectual, instructional, and administrative quality of the department.

Curriculum Development - Led the department's curriculum development. Responsible for maintaining strong curricula for disciplines in the department to meet student needs for a hands-on education that properly prepares them for employment or advanced study.

Work Assignment - Assigned workloads and teaching assignments to faculty that fairly reflected faculty expertise, scholarship, and university service.

Scheduling and Resource Management - Established the schedule of classes to make optimal use of resources and addressed the needs of students, faculty and facilitated availability while meeting FTE targets.

Strategic Planning - Led department in developing long-term plans for meeting department, college and university goals.

Budgeting - Managed department budget to best meet needs within given allocations. Responsible for maintaining accurate and timely records sufficient to support audits of department activities.

Operations - Supervised staff and student assistants, responsible for efficient use of equipment and supplies. Managed departmental office operations and laboratories.

Development Activities - Actively assisted in fund raising planning and cultivation activities with college and university development personnel. Maintained productive and appropriate relations with alumni, potential donors and other key departmental, college and university stakeholders.

Major Accomplishments as Chair

- **ABET Accreditation** - Oversaw Comprehensive Review, Fall 2014 (2020 will be the next general review).
- **Industry Advisory Board (IAB)** - Established an IAB with representatives from Google, Amazon, Microsoft and small and mid-sized companies, and implemented a schedule whereby we meet with our IAB and determine what IAB partner requirements are for hiring and retaining our students. This is an important necessary component of our ABET accreditation efforts.
- **Budget** - Oversaw/managed department budget including salaries, lecturer contracts, and operations
- **Admissions and Enrollment** - Managed 50% undergraduate student growth over four years (1000 undergraduate BS majors) + double majors/minors. In the 2014-2015 academic year, we impacted the undergraduate computer science major. The criteria for entering the major was established with senior leadership input and is reevaluated periodically.
- **Masters Program** - Managed MS degree program in Computer Science (80+ students).
- **Tenured / Tenure-Track Faculty** - Managed twelve tenured / tenure-track faculty members (hired four of twelve). Obtained knowledge of the Collective Bargaining Agreement (CBA) between the California Faculty Association (CFA) and the California State University (CSU) system since the CBA sets the terms and conditions for faculty members (union) for employment in the CSU.
- **Lecturers** - Managed/hired 20+ lecturers and lecturer entitlements.

- **Diversity** - Hired student assistants each year from SEES (Science Educational Enhancement Services) to assist incoming students enroll in their very first term at CPP. SEES is a diversity program serving under-represented minority students in the CoS. I obtained approval from the Dean and Provost to hire a tenure-track faculty member for department's first joint appointment. The joint appointment is with CEMaST. CEMaST serves as the central location in the College of Science to promote STEM teaching a learning at all levels. I participated in the selection process until I moved to the Dean's Office in my current position. The search was successful in hiring this new joint appointment.
- **Semester Conversion** - Oversaw department curriculum modification and processing for semester conversion commencing in Fall 2018
- **RTP/Lecturer Criteria** - Oversaw modification of Retention, Tenure, and Promotion (RTP) documents for department including tenured/tenure-track and lecturer evaluation criteria document
- **Collaboration** - Met with and provided support documentation to Harvey Mudd Computer Science Department Chair, Ran Libeskind-Hadas, for its *Computer Science Research Gateway Program*, resulting in a successfully funded NSF grant. The eight-week summer program provides research experiences for undergraduates from non-Ph.D. granting universities. This program helps students gain experience in a research environment encouraging students to pursue a Ph.D. CPP students began participating in summer 2015.
- **Laboratories** - Updated/refreshed three department smart classroom laboratories and one research laboratory.
- **Web Presence** - Introduced new website and LinkedIn group
- **Scholarships / Endowments** - Managed scholarships and established two endowments
- **Branding** - Worked with College of Science Communications Specialist to establish a department logo.
- **Staffing** - Managed/hired staff and student assistants

PROFESSIONAL EXPERIENCE

- Systems Manager - The California Institute of Technology (Caltech), 1997-2001
- Programmer - Kronos Digital Entertainment, 1996-1997
- Programmer - The CENTOS Company, 1995-1996
- Editor/Publisher - The CD-ROM Reporter, 1992-1995
- Line Manager - Programmable Logic Devices (PLD), Texas Instruments European Semiconductor Group. Responsible for \$21.3 million business, 1991-1992
- European Program Manager - Texas Instruments European Semiconductor Group, 1990-1991
- Regional PLD Manager (UK and Ireland) - Texas Instruments European Semiconductor Group, 1989-1990
- Semiconductor Technical Representative - Texas Instruments North American Semiconductor Group, 1988-1989
- Applications Engineer - Texas Instruments North American Semiconductor Group, 1987-1988

GRANTS, AWARDS, AND HONORS

1. National Science Foundation, CyberCorps: Scholarship for Service (SFS) Community, "SFS (Scholarship Track): An Interdisciplinary, Learning-by-Doing Approach to Identify and Prepare Cyber Warriors," 2015-2019 (Co-PI, \$1.8M)
2. California State Polytechnic University, Pomona, Co-Instructor, Los Angeles Aqueduct Centennial Project (course taught: Interactive Media and App Coding), spring/summer, 2013 (~\$10k)
3. California State Polytechnic University, Pomona, Quality Learning Fund, 2007 (\$12912)
4. ACM, Federated Computing Research Conference Educator's Travel Grant, 2007 (\$1060)
5. California State Polytechnic University, Pomona, Presidential Travel Fund Grant to attend 2007, Game Developers Conference (\$400)

6. California State Polytechnic University, Pomona, Presidential Travel Fund Grant to attend 2006, Game Developers Conference (\$400)
7. California State Polytechnic University, Pomona, Academic Travel Grant, 2005 (\$400)
8. Winner, one of ten best papers at the 3rd International Conference on Application and Development of Games (ADCOG) 2004 for “Social and Ethical Considerations in Virtual Worlds”
9. Winner, one of nine best papers at the 2nd International Conference on Application and Development of Games (ADCOG) 2003 for “Internet Gaming in the Era IPv6”
10. California State Polytechnic University, Pomona, Faculty Development Grant, 2003 (\$560)
11. California State Polytechnic University, Pomona, Academic Research Grant, 2003 (\$4156)
12. California State Polytechnic University, Pomona, Academic Travel Grant, 2002 (\$725)

RESEARCH AND PUBLICATIONS

Journal Articles

1. R. W. Kerbs and M. Vahidi, “Content Adaptation for Handheld Mobile Devices,” *International Journal of Technology, Knowledge and Society*, 9(1), 2013, pp 113-125
2. R. W. Kerbs, “Social and Ethical Considerations in Virtual Worlds,” *The Electronic Library, Special Issue: 23(5)*, 2005, pp 539-546. This paper was selected as one of ten best papers (out of twenty) at the 3rd International Conference on Application and Development of Games (ADCOG) 2004
3. R. W. Kerbs, “Internet Gaming in the Era of IPv6,” *The Electronic Library, Special Issue: Network and Security Issues for Internet Mobile Entertainment*, 22(1), 2004, pp 16-22. This paper was selected as one of the nine best papers (out of 45) at the 2nd International Conference on Application and Development of Games (ADCOG) 2003

Conference Papers

1. F. Tang, R. W. Kerbs, and G. S. Young, “Improving CS Student Retention with Intelligent Agents”, *Proceedings of the AAAI Spring Symposium on Using AI to Motivate Greater Participation in Computer Science*, March 2008
2. R. W. Kerbs, “Student Teamwork: A Capstone Course in Game Programming,” 37th ASEE/IEEE Frontiers in Education Conference 2007: Milwaukee, WI, available online at: <http://fie.engrng.pitt.edu/fie2007/>
3. R. W. Kerbs, “Social and Ethical Considerations in Virtual Worlds,” 3rd International Conference on Application and Development of Games (ADCOG) 2004, pp 97-102: Hong Kong, China
4. R. W. Kerbs, “An Empirical Comparison of User Color Preferences in Electronic Interface Design,” 19th International Symposium on Human Factors in Telecommunication 2003: Berlin, Germany, available online at: http://www.hft.org/HFT03/HFT03_Programme.htm (last access 01/04/2004)
5. R. W. Kerbs, “Internet Gaming in the Era of IPv6,” published in the conference proceedings for the 2nd International Conference on Application and Development of Games (ADCOG) 2003, pp 31-36: Hong Kong, China

Laboratory Manuals

- Programming Game Engines, Spring 2008

Book Reviews

1. “Computer Networks,” by Lin, for McGraw-Hill, 2011-2012
2. “Modern Computer Networks,” by Lin-Hwang-Baker, for McGraw-Hill, 2010-2011
3. “C++ for Computer Science,” by Okon Akpan, for McGraw-Hill, 2010-2011
4. “Analyzing Internet Protocols,” by Jeff Parker, for John Wiley and Sons, Inc., 2005-2006
5. “Game Programming with Flash 8,” by Prayaga, for Addison-Wesley, Inc., 2005-2006

6. "Ethics and Technology: Ethical Issues In An Age of Information and Communication," by Herman Tavani, for McGraw-Hill, 2004-2005
7. "Automatic Generation of Computer Animation: Using AI for Movie Animation," by R. Lu and S. Zhang, for ACM (Computing Reviews), 2003
8. "Introduction to Programming and Problem Solving with Java," by P. Gilbert, for McGraw-Hill, 2003

Online Articles

- "Faculty Postmortem: Cal Poly Pomona's Game Development Course," *Gamasutra.com*, http://www.gamasutra.com/features/20060713/kerbs_01.shtml#, July 13, 2006

Magazine Articles

1. "CDs RULE," Computer Buyer's Guide and Handbook, 12(4), 33-42, 1995
2. "The View From the States," CD-WORLD, 1(1), 5, 1994
3. "CD-ROM: The Next Generation - Erasable?" The CD-ROM Reporter, 2(6), 8-9, 1994
4. "The Changing Face of Video Standards," The CD-ROM Reporter, 2(5), 8-9, 1994
5. "Sound Images," The CD-ROM Reporter, 2(4), 3, 1994
6. "Animation," The CD-ROM Reporter, 2(2), 6-7, 1994
7. "Imaging the Future," The CD-ROM Reporter, 2(1), 3, 1994
8. "POWER - How Much is Too Much?," The CD-ROM Reporter, 1(4), 5, 1993
9. "The NIMBUS Video CD," The CD-ROM Reporter, 1(2), 3, 1993
10. "CD 101," The CD-ROM Reporter, 1(1), 3, 1993

Working Papers

1. "BLUE: An Interactive Visualization System for Categorical Data"
2. "10,000 LOC in 10 weeks"
3. "An Accreditation Framework for Global Markets"

Invited Talks

1. 2006, "Game Development in Cal Poly's Computer Science Department," California State Polytechnic University, Pomona (Computer Science Society)
2. 2003, "Some Tips on Developing a Career in Computer Science," California State Polytechnic University, Pomona (Computer Science Society)
3. 2002, "Predictive Data Mining with Visualization," California State University San Bernardino
4. 2000, "Survival Tips for Doctoral Students," Nova Southeastern University's Graduate School of Computer and Information Sciences

PROFESSIONAL ACTIVITIES

- Board Member, Achieve Scholars Program (\$2.4 million, 5-year grant focused on providing undergraduate research experiences to under-represented, low-income, and first-generation students), California State Polytechnic University, Pomona, 2016-present
- Member, Tau Beta Pie Honor Society, 1986-present
- Member, Association for Computing Machinery (ACM), 1997-present
- Member, California State Polytechnic University, Pomona's Experts Online, 2005-present
- Paper Reviewer, Frontiers in Education Conference, 2008-2012
- Leadership Training, Cal Poly Pomona, 2012
- Paper Reviewer, Southern California Conference on Undergraduate Research, 2009-2010

- Partner Representative in the International Game Developers Association (IGDA) for California State Polytechnic University, Pomona, 2005-2006
- Referee: International Journal of Computers and Their Application, 2004-2005

SERVICE TO UNIVERSITY

California State Polytechnic University, Pomona

- Member, Additional Bottleneck Courses (ABC) Committee (determines funding allocations for timely student graduation), 2016-present
- Advisor, Computer Science Department undergraduate students, 2001-2016
- Member, Computer Science Department curriculum, laboratory, policy, planning, and assessment committees, 2001-2016
- Chair, computer science laboratory committee, 2011-2016
- Faculty Advisor, university-wide student club, Computer Science Society (CSS), 2011-2016
- Member, Boeing Scholarship Committee, 2005 - present
- Member, Computer Science Department RTP committee, 2009-2016
- Department Representative, Faculty Hearing Panel, 2008-2016
- Judge, CSS Spring Hackathon 2012
- Chair, Computer Science Department search committee, 2010-2012
- Member, office ASC search committee, 2010-2011
- Faculty Advisor, university-wide student club, Game Design and Appreciation Club, 2009-2010
- Panelist, BroncoFusion, 2007-2008
- Member, University Technology Committee, 2006-2007
- Member, College of Science First Year Experience Course Development Task Force, 2006-2007
- Member, College of Science Prioritization Advisory Group, 2005-2006
- Assessment Coordinator, Computer Science Department, 2003-2004
- Member, University Enrollment Management Advisory Council (EMAC); Student Scholarships Subcommittee, 2005-2006
- Member, University Master of Science in Telecommunications Task Force, 2001-2003
- Member, College of Science Distinguished Teaching Award Committee, 2001-2003
- Member, Computer Science Department Accreditation Task Force, 2001-2003

RESEARCH AND TEACHING INTERESTS

- Computer Graphics
- Data / Information Visualization
- Data Mining
- Game Development
- Human Computer-Interaction
- Network Security

TEACHING EXPERIENCE

- California State Polytechnic University, Pomona

Undergraduate (BS, lower division)

SCI101 First Year Experience (new course, helped create and teach for the first time)

CS128 Intro to C++
CS140 Intro to Computer Science
CS141 Intro to Programming and Problem-Solving
CS245 Intro to Computer Graphics
CS245 Programming GUIs (new course, helped create and teach for the first time)

Undergraduate (BS, upper division)

CS380 Computer Networks
CS420 Artificial Intelligence
CS431 Operating Systems
CS435 Database Systems
CS445 Advanced Computer Graphics
CS445 Computer Graphics (new course, helped create and teach for the first time)
CS461 Senior Project
CS463 Undergraduate Seminar
CS470 Game Development (new course, created and taught for first time)
CS499 Introduction to Game Development (special topics course, created and taught for first time)
CS499 Game Development (special topics course, created and taught for first time)
CS499 Programming Game Engines (special topics course, created and taught for first time)
CS499 Aqueduct Futures Project (special topics course, created and taught for first time)

Graduate (MS)

CS510 Computer Aided Instruction
CS565 Advanced Computer Networks (new course, helped create and teach for the first time)
CS566 Distributed Computing (new course, helped create and teach for the first time)
CS570 Human Computer Interaction

Community Teaching

- Glendale Community College, Community Services Education: Drumming for Health and Enjoyment, Fall 2012, Winter 2013

THESIS AND PROJECT COMMITTEES

Chair:

1. Robert J. Fallon, "Blending Augmented Reality with Traditional Learning," (2014)
2. Denny Rivera, "Particle Engine Special Effects: Creating a Special Effects Library Based on Particle Engines," (2013)
3. Jefferson Hirk, "Augmenting XSDs for People with Disabilities," 2012
4. Arbi Alexandri, "Crawling and Indexing Ajax Driven Web Pages," 2011
5. Mehrak Vahidi, "Content Adaptation for Handheld Devices," 2011
6. Tony Diaz, "Touch Screens and Real-Time Strategy Games," 2010
7. Michael Chang, "Image Compression and Modeling with Rubik's Cubes," 2009
8. John Lee, "Feature Selection in Intrusion Detection," 2005
9. XiaoXiong Lei, "Selective IP Traceback," 2004

Member:

Thesis and Project Committees: Yan Wu, Peerapong Sutinrerk, Tjandra Afandi, Shaffiq Salim Rahim, James Evans, Hyun Lee, Huan Doan, Powen Yang, Yulan Luo, Kunal Gandhi, Yuan Chen, Hei Ning Ma, Der-Haw Wang, Li Zhang, Hung Wei-Lin, Mahmudur Rahman, Cathleen Blackmon, David Young, Leo Xu, Ming Pan,

Richard Yang, Rik Glover, Muhammad Khan, Fahad Siddiqi, Abdulaziz Alsenan, Tarek Al-Naseri, Manish Goswami, Ivan Lizarraga

Volunteer

- Thesis Standing Committee Member, Ph.D. in Computer Science at Nova Southeastern University, College of Engineering and Computing

Examinations

- Uniform Investment Advisor Law Examination, Series 65, FINRA, 2013

Designations

- Certified Income Specialist (CIS), IBF, 2014

April 3, 2016